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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method comprising:

receiving a user-specified input defining a feature for a pattern and a minimum boundary-to-feature distance, and at least one inter-feature distance, the pattern defined from the feature and comprising a plurality of the feature, the inter-feature distance specifying a minimum or a maximum distance between the features of the pattern, the features of the plurality being evenly spaced relative to each other, the features of the plurality included within a boundary of a CAD geometry piece, and where a feature corresponds to a feature of the CAD geometry piece;

receiving an indication of modification to the boundary of the CAD geometry piece;

automatically modifying the boundary of the CAD geometry piece and its boundary based at least upon the received indication; and

automatically maintaining continuous enclosure of the pattern within the modified boundary of the modified CAD geometry piece, including automatically modifying at least one of the pattern or the plurality of features to be continuously enclosed within the modified boundary of the modified CAD geometry piece, based at least upon the modified boundary of the CAD geometry piece and the received input, wherein the maintaining continuous enclosure of the pattern is performed by a computer processor and comprises:

determining that including the plurality of features within the modified boundary violates the minimum boundary-to-feature distance, and

in response to the determining, removing features from the pattern so that the minimum boundary-to-feature distance is satisfied with the remaining features included within the modified boundary.

2. (Original) The method of claim 1, wherein said receiving the input comprises receiving an input corresponding to an indication of a direction, the indication having an X- component and a Y-component.

3. (Currently Amended) The method of claim 1, wherein:

said receiving the input includes receiving a boundary value, the boundary value having at least one of a maximum value and a minimum value defining a maximum and a minimum, respectively, for a distance between at least one feature and the boundary; and

~~automatically~~-modifying at least one of the pattern or the plurality of features includes maintaining a distance between the at least one feature and the boundary within the boundary value.

4. (Original) The method of claim 1, wherein said receiving the indication of modification comprises receiving an indication of modification to a 2-D geometry piece parametrically defining the CAD geometry piece.

5. (Original) The method of claim 4, wherein said receiving the modification to the geometry comprises receiving an indication of modification of a dimension of the 2-D geometry piece parametrically defining said CAD geometry piece.

6. (Original) The method of claim 1, wherein said receiving the input comprises receiving an indication to optimize the pattern.

7. (Currently Amended) The method of claim 1, wherein said ~~automatically~~-modifying the CAD geometry piece comprises parametrically updating the CAD geometry piece.

8. (Currently Amended) The method of claim 1, wherein said ~~automatically~~-modifying at least one of the pattern or the plurality of features comprises ~~automatically~~-determining what modification, if any, is necessary to one or more dimensions of at least one of the plurality of features.

9. (Currently Amended) The method of claim 1, wherein said ~~automatically~~ modifying at least one of the pattern or the plurality of features comprises ~~automatically~~ determining what modification, if any, is necessary to an inter-feature distance between each of the plurality of features, and changing the inter-feature distance between at least one feature and an adjacent feature upon determining the modification is necessary.

10. (Canceled)

11. (Currently Amended) The method of claim 1, wherein said ~~automatically~~ modifying at least one of the pattern or the plurality of features comprises:

~~automatically~~ determining what modification, if any, is necessary to a first dimension in view of a determined modification to a second dimension, to maintain a relationship between said first and second dimensions, where the first dimension and the second dimension comprise first and second dimensions of each feature of the plurality of features, and

modifying at least one of the first dimension or the second dimension of each feature of the plurality of features.

12. (Currently Amended) An apparatus comprising:

a processor to execute programming instructions; and

a storage medium having stored therein a plurality of programming instructions, which when executed by the processor perform operations comprising: ~~the instructions cause the apparatus to~~:

receiving a user-specified input defining a feature for a pattern and a minimum boundary-to-feature distance, ~~and at least one inter-feature distance, the pattern defined from the feature and comprising a plurality of the feature, the inter-feature distance specifying a minimum or a maximum distance between the features of the pattern,~~ the features of the plurality being evenly spaced relative to each other, the features of the plurality included within a boundary of a CAD geometry piece, and where a feature corresponds to a feature of the CAD geometry piece;

receive[[e]]ing an indication of modification to the boundary of the CAD geometry piece;

~~automatically~~-modify_ing_ the boundary of the CAD geometry piece ~~and its boundary~~ based at least upon the received indication; and

~~automatically~~-maintain_ing_ continuous enclosure of the pattern within the modified boundary of the modified CAD geometry piece, including instructions, which when executed, cause the apparatus to ~~automatically~~-modify at least one of the pattern or the plurality of features to be continuously enclosed within the modified boundary of the ~~modified~~ CAD geometry piece, based at least upon the modified boundary of the CAD geometry piece and the received input, wherein the maintaining continuous enclosure of the pattern comprises:

determining that including the plurality of features within the modified boundary violates the minimum boundary-to-feature distance, and

in response to the determining, removing features from the pattern so that the remaining features included within the modified boundary satisfy the minimum boundary-to-feature distance. ~~; and~~

~~a processor coupled to the storage medium to execute the programming instructions.~~

13. (Original) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to receive an input corresponding to an indication of a direction, the indication having an X-component and a Y-component.

14. (Canceled)

15. (Previously Presented) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to:

receive a boundary value, the boundary value having at least one of a maximum value and a minimum value defining a maximum and a minimum, respectively, for a distance between at least one feature and the boundary, and

maintain a distance between the at least one feature and the boundary within the boundary value.

16. (Original) The apparatus of claim 15, wherein said programming instructions, which when executed, cause the apparatus to receive an indication of modification of a dimension of the 2-D geometry piece parametrically defining said CAD geometry piece.

17. (Original) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to receive an indication to optimize the pattern.

18. (Original) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to parametrically update the CAD geometry piece.

19. (Currently Amended) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to ~~automatically~~ determining what modification, if any, is necessary for various dimensional sizes of each of the plurality of features.

20. (Currently Amended) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to ~~automatically~~ determine what modification, if any, is necessary to an inter-feature distance between each of the plurality of features, and changing the inter-feature distance between at least one feature and an adjacent feature upon determining the modification is necessary.

21. (Currently Amended) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to ~~automatically~~ determine what modification, if any, is necessary to a dimension to conform to a user specified input.

22. (Currently Amended) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to ~~automatically~~ determine what modification, if any, is necessary to a first dimension in view of a determined modification to a second dimension, to maintain a relationship between said first and second dimensions, where the first dimension and the second dimension comprise first and second dimensions of each feature of the plurality of features, and

modifying at least one of the first dimension or the second dimension of each feature of the plurality of features

23. (Currently Amended) An article of manufacture having stored therein plurality of programming instructions, which when executed, the instructions cause a <u>computer processor</u><s>machine</s> to:

receive a user-specified input defining a feature for a pattern <u>and a minimum boundary-to-feature distance,</u> <s>and at least one inter-feature distance, the pattern defined from the feature and comprising a plurality of the feature, the inter-feature distance specifying a minimum or a maximum distance between the features of the pattern,</s> the features of the plurality being evenly spaced relative to each other, the features of the plurality included within a boundary of a CAD geometry piece, and where a feature corresponds to a feature of the CAD geometry piece;

receive an indication of modification to <u>a boundary of</u> the CAD geometry piece;

<s>automatically</s> modify the <u>boundary of the</u> CAD geometry piece <s>and its boundary</s> based at least upon the received indication; and

<s>automatically</s> maintain continuous enclosure of the pattern within the modified boundary of the modified CAD geometry piece, including <s>instructions, which when executed, cause the machine to automatically</s> modify<u>ing</u> at least one of the pattern or the plurality of features to be continuously enclosed within the <u>modified</u> boundary of the <s>modified</s> CAD geometry piece, based at least upon the modified <u>boundary of the</u> CAD geometry piece and the received input, <u>wherein the maintaining continuous enclosure of the pattern comprises:</u>

<u>determining that including the plurality of features within the modified boundary violates the minimum boundary-to-feature distance, and</u>

<u>in response to the determining, removing features from the pattern so that the remaining features included within the modified boundary satisfy the minimum boundary-to-feature distance.</u>

24. (Original) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to receive an input corresponding to an indication of a direction, the indication having an X-component and a Y-component.

25. (Previously Presented) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to:

receive a boundary value, the boundary value having at least one of a maximum value and a minimum value defining a maximum and a minimum, respectively, for a distance between at least one feature and the boundary, and

maintain a distance between the at least one feature and the boundary within the boundary value.

26. (Original) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to receive an indication of modification to a 2-D geometry piece parametrically defining the CAD geometry piece.

27. (Previously Presented) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to receive an indication of modification of a dimension of the 2-D geometry piece parametrically defining said CAD geometry piece.

28. (Original) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to receive an indication to optimize the pattern.

29. (Original) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to parametrically update the CAD geometry piece.

30. (Currently Amended) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to ~~automatically~~ determine[[ing]] what modification, if any, is necessary for various dimensional sizes of each of the plurality of features.

31. (Currently Amended) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to ~~automatically~~ determine what modification, if any, is necessary to an inter-feature distance between each of the plurality of features, and changing the inter-feature distance between at least one feature and an adjacent feature upon determining the modification is necessary.

32. (Currently Amended) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to ~~automatically~~ determine what modification, if any, is necessary to a dimension to conform to a user specified input.

33. (Currently Amended) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to:

~~automatically~~ determine what modification, if any, is necessary to a first dimension in view of a determined modification to a second dimension, to maintain a relationship between said first and second dimensions, where the first dimension and the second dimension comprise first and second dimensions of each feature of the plurality of features, and

modify at least one of the first dimension or the second dimension of each feature of the plurality of features.

34. (Currently Amended) ~~The method of claim 1.~~ A method comprising:

receiving a user-specified input defining a feature for a pattern and at least one inter-feature distance, the pattern defined from the feature and comprising a plurality of the feature, the inter-feature distance specifying a minimum or a maximum distance between the features of the pattern, the features of the plurality being evenly spaced relative to each other, the features of the plurality included within a boundary of a CAD geometry piece, and where a feature corresponds to a feature of the CAD geometry piece;

receiving an indication of modification to the CAD geometry piece;

automatically modifying the CAD geometry piece and its boundary based at least upon the received indication; and

automatically maintaining continuous enclosure of the pattern within the modified boundary

of the modified CAD geometry piece, including automatically modifying at least one of the pattern or the plurality of features to be continuously enclosed within the boundary of the modified CAD geometry piece, based at least upon the modified CAD geometry piece and the received input, wherein said automatically modifying at least one of the pattern or the plurality of features includes removing one or more features from the pattern.

35. (Currently Amended) The method of claim 1, wherein said ~~automatically~~ modifying at least one of the pattern or the plurality of features includes adjusting a distance between at least one feature and the boundary such that the plurality of features are continuously enclosed within the boundary.

36. (Currently Amended) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to ~~automatically~~ modify at least one of the pattern or the plurality of features include programming instructions, which when executed, cause the apparatus to remove one or more features from the pattern.

37. (Currently Amended) The apparatus of claim 12, wherein said programming instructions, which when executed, cause the apparatus to ~~automatically~~ modify at least one of the pattern or the plurality of features include programming instructions, which when executed, cause the apparatus to adjust a distance between at least one feature and the boundary such that the plurality of features are continuously enclosed within the boundary.

38. (Currently Amended) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to ~~automatically~~ modify at least one of the pattern or the plurality of features include programming instructions, which when executed, cause the machine to remove one or more features from the pattern.

39. (Currently Amended) The article of manufacture of claim 23, wherein said programming instructions, which when executed, cause the machine to ~~automatically~~ modify at least one of the pattern or the plurality of features include programming instructions, which when executed, cause the machine to adjust a distance between at least one feature and the boundary such that the plurality of features are continuously enclosed within the boundary.

40. (New) The method of claim 1, further comprising:

  receiving a user-specified input defining a minimum inter-feature distance; and

  in response to the determining, modifying a spacing between features of the pattern so that the remaining features included within the modified boundary satisfy the minimum boundary-to-feature distance and the minimum inter-feature distance.